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(71) Applicant: Bettinardi, Luigi Giacomo
19 Via Toscanini
Termine di Cassola VI(IT)

(72) Inventor: Bettinardi, Luigi Giacomo
19 Via Toscanini
Termine di Cassola VI(IT)

(74) Representative: Bonini, Ercole
c/o STUDIO ING. E. Bonini Corso Fogazzaro, 8
I-36100 Vicenza(IT)

(54) Stove burning fuel from a can.

(57) The invention concerns a stove consisting of a container (1) containing fuel of a gelatinous type and of a spacing support (2) having vertical diverging walls provided with a series of holes.

The container is a can and it also acts as a combustion chamber.

On the lower par of the spacing support (2) some hooks (6) are obtained which fit into a circumferential groove (4) being present on the edge (3) of tank 1.

The inside diameter of the spacing support (2) is wider than the external diameter of the container (1) and this permits to axially fit said support over the container with an obvious reduction of the overall dimensions.

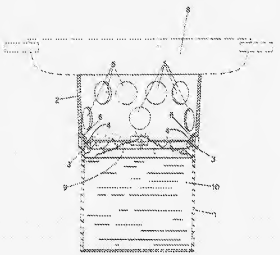

FIG. 1

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"STOVE BURNING FUEL FROM A CAN"

The invention concerns the realization of a stove burning gelatinous fuel.

Several types of stoves burning liquid fuel or liquified gas are known. The stoves burning liquid fuel often burn alcohol or alcoholic mixtures, while the gas stoves are equipped with a small gas bottle surmounted by a distributor and with a stand suited to support the pots or the containers which are to be warmed up.

One of the inconveniences presented by alcohol stoves arises from the fact that alcohol is an extremely volatile liquid and is, therefore, easily exhaustible in a short period of time, because of evaporation, even in the absence of combustion.

Other inconveniences are presented, on the other hand, by gas-burning stoves with gas bottles, due, for instance, to the fact that the bottle is costly and also dangerous if it is not handled with some precaution both during use and during transportation.

Another limit is set by the impossibility of knowing, at any given time, the quantity of fuel contained in the bottle, with the consequence that one never knows when the flame is going to go out because of the lack of fuel.

It can, therefore, be understood that stoves burning liquid or gaseous fuel present some inconveniences.

Besides the liquid and gaseous fuels, other fuels of the gelatinous type are known; they are contained in soft tubes and they are not used for stoves, but are directly applied to green, newly cut wood, in order to promote its combustion.

The goal of the present invention is that of overcoming all the above-mentioned inconveniences by realizing a stove burning a gelatinous fuel, which, therefore, is not under pressure.

Another goal that it is necessary to reach is that of realizing a very economical stove, which can be thrown away when the fuel is finished.

Yet another proposed goal is that of realizing a stove with minimum overall dimensions, so as to avoid space problems; on the contrary, the stove should easily be packed in bags, back-packs and bundles.

All the above-mentioned goals are reached by means of the realization of a stove consisting of a fuel tank, consisting of a can which receives fuel of the gelatinous type burning with a low flame, and of a spacing support, having slightly diverging vertical walls, placed on top of the tank itself. The support supports the pot or any other metal container for food stuff and it separates said pot from the fuel tank. It also acts as a spacer for the flame so that the low flame produced by the combustion may sufficiently spread and heat.

One of the advantages obtained with the stove of the invention is that both the combustion chamber and the fuel container coincide and are identified in a single can. This fact permits to considerably limit the cost of the stove as well as to decrease its overall dimensions.

Another advantage is represented by the fact that with the gelatinous fuel all those leaks by evaporations, which had been mentioned in the case of the liquid fuels, are avoided, and the problems which can arise from containers with gas under pressure no longer exist.

Moreover, the just mentioned characteristics do not limit the performance of the stove, on the contrary they permit to obtain the same results obtained with a traditional stove. Other construction and functional characteristics will be better understood from the description of two preferred forms of execution of the invention, which are given by way of illustration only, but are not meant to limit the scope of the invention, and are illustrated in the enclosed tables of drawing, where:

-Fig. 1 is a cross-section view of the stove;

-Fig. 2 is a perspective view of a stove having a cylindrical external profile;

-Fig. 3 shows the spacer inserted onto the fuel tank of the stove of Fig. 2;

-Fig. 4 is a shape variation of the stove of Fig. 3, showing a perspective view of a stove having a square cross-section;

-Fig. 5 shows the spacer inserted onto the fuel tank of the stove of Fig. 4.

With reference to the listed tables of drawing, the stove of Fig. 1 consists of a fuel tank 1 and of a spacing support 2. The Figs. 2 and 3 show a possible form of execution of the invention.

Tank 1 is a common can having a cylindrical shape, made of tin or of another metal material, open at its upper end and provided with a continuous circular edge 3, being bent toward the inside. Adjacent to said edge 3 there is a groove 4 being concentric with edge 3.

The spacing support 3 is a practically cylindrical crown provided with passing holes 5 bored through the vertical walls and being slightly tapered. The holes 5 have the task of supplying the flame with the necessary amount of oxygen in order to obtain a good combustion.

The spacing support 2 is provided on the lower end of its vertical walls with a series of protruding hooks 6 which protrude inside the spacer itself.

In the case of the present example, these hooks 6 are obtained by blanking and bending of the metal sheet of the spacer.

Other construction variations may foresee the separate manufacture of the hooks and their application on the spacer by means of welding or similar means

The inside lower diameter of the spacing support is larger than the outside diameter of can 1, so that said support is easily connected around the external wall of the can and it slides around it until the hooks 6 enter into groove 4, thereby insuring the tightening.

In order to warm up the food stuff it is then sufficient to light the fuel in the tank 1 itself after having removed lid 7, positioned the spacing support 2 on the edge 3 of tank 1 and placed the pot or another container on the top edge of spacer 2.

The lighting of the gelatinous fuel insures a low flame 8 as can be seen in Fig. 1, which is easily controllable and even and which is sufficient for the proposed use.

Solely by way of illustration, the gelatinous fuel made of a predominantly alcohol base, which has been adopted for the stove of the invention, may be constituted by the following chemical components in the listed percentages:

ethyl alcohol 75%, diacetone alcohol 23%, carbopol 940 1%, dibutilammina 1%

Flame 8 is very easily quenchable, since it is a short flame, by dropping the lid of the can onto its seat, so that the flame is quenched because of the lack of oxygen and it goes out immediately

It will be pointed out here that, since the gelatinous fuel 10 is contained in can 1, its level is constantly visible when the can is open, and this eliminates the inconvenience of running out of fuel without warning.

When the stove of the invention is not burning, the spacing support 2 can advantageously be made to slide over the outside wall of the can, as can be observed in Fig. 3, in order to keep the overall dimensions to a minimum. The slightly tapered shape of the spacing support 2 facilitates the superimposition of said support which also remains tight around the can thanks to the pressure exerted by the hooks 6 around its external circumference.

A construction variation of the stove illustrated in the example of the Figs. 2 and 3 is shown in Fig. 4, in this case the spacing support and the can have a parallelepipedal square shape. The performance characteristics already illustrated remain, obviously unchanged. The spacing support still has diverging vertical walls, in order to promote its safe placement around tank 1 and it is also provided with a series of protruding hooks 6 obtained in its inside, which allow the tightening of said spacing support within the groove 4 of tank 1

Fig. 5 shows the can of Fig 4 with the spacing support fitted externally to can 1.

During the manufacturing of the invention construction variations may be applied. They can concern, for instance, the shape of the spacing support or of the can, or the way of tightening the support on the can.

Each variation will still be considered as belonging to the scope of the inventive idea, such as it is enunciatated and stated in the following claims

Claims

1) A stove especially suited to warm up food stuff, characterized by the fact that is includes a can (1), having any shape and acting as a container for the fuel and as a combustion chamber for the fuel, a spacing element (2) with an edge that can fit around the edge of the can, provided with holes (5) suited to provide the air for the combustion.

2 A stove according to claim 1), characterized by the fact that it uses a solid, preferably gelatinous fuel for the combustion.

3) A stove according to claim 1), characterized by the fact that the spacing support (2) is tightened around the edge (3) of the can by means of hooks (6) obtained from the spacing support itself or applied to it.

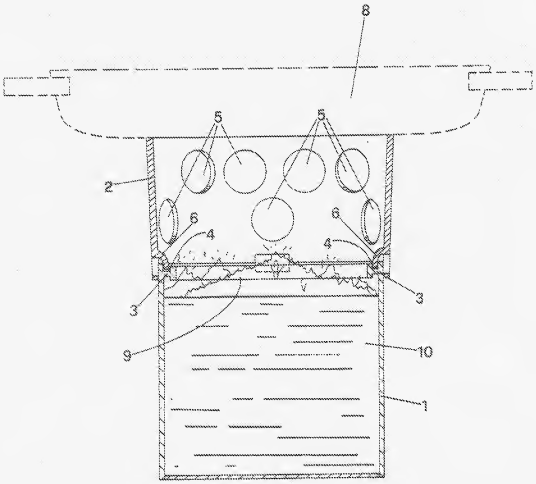

FIG. 1

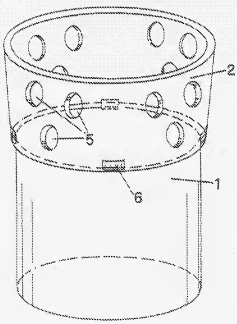

FIG.2

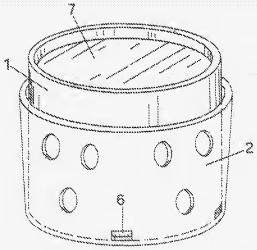

FIG.3

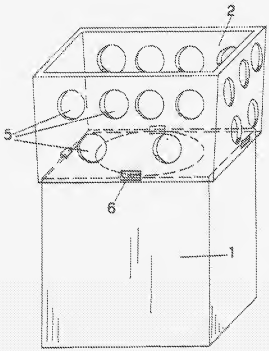

FIG.4

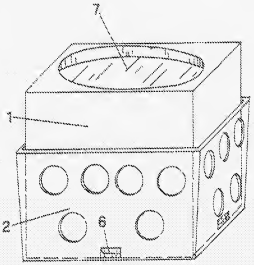

FIG.5